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WHAT IS CLAIMED IS:

1. An agonist antibody which ~~specifically binds to the WSX receptor.~~
2. The antibody of claim 1 which ~~specifically binds to human WSX receptor.~~
3. The antibody of claim 2 which ~~specifically binds to human WSX receptor variant 13.2.~~
4. The antibody of claim 1 which binds WSX receptor with a  $K_d$  of no more than about  $1 \times 10^{-8} M$ .
5. The antibody of claim 4 which binds WSX receptor with a  $K_d$  of no more than about  $1 \times 10^{-9} M$ .
6. The antibody of claim 2 which also binds to murine WSX receptor.
7. The antibody of claim 1 which has an  $IC_{50}$  in a KIRA ELISA of about  $0.5 \mu\text{g}/\text{ml}$  or less.
8. The antibody of claim 7 which has an  $IC_{50}$  in a KIRA ELISA of about  $0.2 \mu\text{g}/\text{ml}$  or less.
9. The antibody of claim 8 which has an  $IC_{50}$  in a KIRA ELISA of about  $0.1 \mu\text{g}/\text{ml}$  or less.
10. The antibody of claim 1 which has biological characteristics of antibody 2D7 (ATCC Accession Number ~~\_\_\_\_\_~~).
11. The antibody of claim 10 which binds to the epitope on WSX receptor bound by antibody 2D7.
12. The antibody of claim 10 which has complementarity determining region (CDR) residues from antibody 2D7.
13. The antibody of claim 1 which has the biological characteristics of antibody 1G4 (ATCC Accession Number ~~\_\_\_\_\_~~).
14. The antibody of claim 13 which binds to the epitope on WSX receptor bound by antibody 1G4.
15. The antibody of claim 13 which has complementarity determining region (CDR) residues from antibody 1G4.
16. The antibody of claim 1 which has the biological characteristics of antibody 1E11 (ATCC Accession Number ~~\_\_\_\_\_~~).
17. The antibody of claim 16 which binds to the epitope on WSX receptor bound by antibody 1E11.

18. The antibody of claim 16 which has complementarity determining region (CDR) residues from antibody 1E11.

19. The antibody of claim 1 which has the biological characteristics of antibody 1C11 (ATCC Accession Number           ).

20. The antibody of claim 19 which binds to the epitope on WSX receptor bound by antibody 1C11.

21. The antibody of claim 19 which has complementarity determining region (CDR) residues from antibody 1C11.

22. The antibody of claim 1 comprising hypervariable region residues of clone 3 antibody (SEQ ID NO:48).

23. The antibody of claim 1 comprising hypervariable region residues of clone 4 antibody (SEQ ID NO:49).

24. The antibody of claim 1 comprising hypervariable region residues of clone 17 antibody (SEQ ID NO:50).

25. The antibody of claim 1 which is a monoclonal antibody.

26. The antibody of claim 1 which is a human antibody.

27. The antibody of claim 1 which is a humanized antibody.

28. The antibody of claim 1 which is an antibody fragment.

29. The antibody fragment of claim 28 which is an  $F(ab')_2$ .

30. A composition comprising the antibody of claim 1 and a physiologically acceptable carrier.

31. The composition of claim 30 which is sterile.

32. The composition of claim 31 which is lyophilized.

33. The composition of claim 30 further comprising a cytokine.

34. A method for activating the WSX receptor comprising exposing the WSX receptor to an amount of the antibody of claim 1 which is effective for activating the WSX receptor.

35. A method for enhancing proliferation or differentiation of a cell comprising the WSX receptor comprising exposing the cell to an amount of the antibody of claim 1 which is effective for enhancing proliferation or differentiation of the cell.

36. An isolated nucleic acid molecule encoding the antibody of claim 1.

37. A vector comprising the nucleic acid molecule of claim 36.

38. A host cell comprising the nucleic acid molecule of claim 36.

39. A method of producing an agonist antibody which specifically binds to the WSX receptor comprising culturing the host cell of claim 38 and recovering the antibody from the cell culture.